

REMARKS

The Examiner has rejected Claim 1 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,572,372 to Sekine et al. ("Sekine") in view of U.S. Patent No. 7,268,816 to Yoshida et al. ("Yoshida"). The Examiner has also rejected Claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Sekine in view of Yoshida, and further in view of JP 2002-374436 to Akimoto et al. ("Akimoto").

Applicants are grateful to note that Examiner has allowed claims 3 and 4.

Claims 1 and 2 stand currently amended. Claims 5 and 6 stand newly added. Claims 1-6 are currently pending. The following remarks are considered by applicant to overcome each of the Examiner's outstanding rejections to current claims 1, 2, 5, and 6. An early Notice of Allowance is therefore requested.

I. SUMMARY OF RELEVANT LAW

The determination of obviousness rests on whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. In determining obviousness, four factors should be weighed: (1) the scope and content of the prior art, (2) the differences between the art and the claims at issue, (3) the level of ordinary skill in the art, and (4) whatever objective evidence may be present. Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor. The Examiner carries the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness and must show that the references relied on teach or suggest all of the limitations of the claims.

II. REJECTION OF CLAIMS 1 AND 2 UNDER 35 U.S.C. § 103(A) BASED, IN PART, ON SEKINE IN VIEW OF YOSHIDA

On pages 4 and 5 of the current Office Action, the Examiner rejects claims 1 and 2 under 35 U.S.C. § 103(a) as being unpatentable based, in part, on Sekine in view of Yoshida. These rejections are respectfully traversed and believed overcome in view of the following discussion.

Claim 1 states, in part:

“a fixing body which movably supports the movable lens body in the optical axis direction, such that **the lens body moves with respect to the fixing body in the optical axis direction;**

“wherein the movable lens body is comprised of **a lens-barrel provided with a lens** and a lens-barrel holder which movably supports the lens-barrel with respect to the lens-barrel holder in the optical axis direction;

“wherein **the lens-barrel holder** is formed in a cylindrical shape and **a female screw part is formed on its inner periphery**, and **a male screw part is formed on an outer periphery of the lens-barrel** and the male screw part is threadedly engaged with the female screw part and the lens-barrel is moved with respect to the lens-barrel holder in the optical axis direction by relatively turning the lens-barrel holder with respect to the lens-barrel;

“wherein the lens-barrel is relatively moved with respect to the lens-barrel holder in the optical axis direction through screw engagement so that a focus between the lens provided in the lens-barrel and the imaging element is adjusted **while positional relationship between the first magnetic means of the lens-barrel holder and the second magnetic means of the fixing body is maintained....**” (emphasis added).

Examiner asserts that Sekine discloses the above highlighted claim language relating to the movement of the lens-barrel with respect to the lens-barrel holder. This, however, misinterprets the teachings of Sekine.

In particular, Sekine teaches that the yoke 64 (which Examiner asserts discloses a lens-barrel holder) is attached to the movable portion 63 (which Examiner asserts discloses a lens-barrel) such that the yoke 64 does not move relative to the movable portion 63. See Sekine, Fig. 11A. Rather, the yoke 64 only moves synchronously with the movable portion 63. This is because the yoke 64 is a part of, and immovably connected to, the movable portion 63. Sekine Col. 6, Lns. 30-37, Fig. 11A. Accordingly, Sekine fails to disclose that the lens-barrel is moved with respect to the lens-barrel holder in the optical axis direction, as stated in Claim 1.

In addition, the Examiner asserts that Akimoto disclose the above highlighted language of Claim 1 relating to the threading (i.e., male/female screw parts) of the lens-barrel holder and the lens-barrel. This, however, misinterprets the teachings of Akimoto.

In particular, Akimoto teaches that first holder 32 holds the lens 31. Akimoto, ¶ [0012], Figs. 2-4. As such, the first holder 32 of Akimoto is closest to the lens-barrel of Claim 1. In addition, Akimoto teaches that the first holder 32 is screwed to the second holder 33. Akimoto, ¶ [0012]. As such, the second holder 33 of Akimoto is closest to the lens-barrel holder of Claim 1.

However, Akimoto disclose that the first holder 32 (the closest disclosure to the lens-barrel) has a female screw part 32c. Akimoto, ¶ [0012]. In addition, Akimoto discloses that the second holder 33 (the closest disclosure to the lens-barrel holder) has a male screw part 33b. Akimoto, ¶ [0013]. As such, Akimoto discloses that the lens-barrel has a female screw part and not a male screw part, as stated in Claim 1. Similarly, Akimoto thus discloses that the lens-barrel holder has a male screw part, and not a female screw part, as stated in Claim 1.

Thus, the references to which Examiner cites fail to disclose all of the language of Claim 1.

Furthermore, a feature of Claim 1 is that the lens-barrel holder is formed in a cylindrical shape with a female screw part formed on its inner periphery, and a male screw part is formed on an outer periphery of the lens-barrel, such that the male screw part is threadedly engaged with the female screw part. This enables the lens-barrel to be moved in the optical axis direction by relatively turning the lens-barrel holder with respect to the lens-barrel.

Therefore, the lens-barrel is capable of being precisely moved and adjusted in the optical axis direction with respect to the lens-barrel holder through screw engagement.

As a result, a focus between the lens provided in the lens-barrel and the imaging element can be adjusted while positional relationship between the first magnetic means of the lens-barrel holder and the second magnetic means of the fixing body is maintained.

In this state, the lens-barrel and the lens-barrel holder are fixed to each other. Thus, the lens drive device is obtained in which focus adjustment has been performed by moving the lens-barrel in the optical axis direction with respect to the lens-barrel holder while the positional relationship between the first magnetic means provided in the lens-barrel holder and the second magnetic means provided in the fixing body is maintained.

Therefore, as discussed above, the cited references fail to disclose the below emphasized portions of Claim 1:

“wherein the lens-barrel holder is formed in a cylindrical shape and a female screw part is formed on its inner periphery, and a male screw part is formed on an outer periphery of the lens-barrel and the male screw part is threadedly engaged with the female screw part and the lens-barrel is moved with respect to the lens-barrel holder in the optical axis direction by relatively turning the lens-barrel holder with respect to the lens-barrel;

“wherein the lens-barrel is relatively moved with respect to the lens-barrel holder in the optical axis direction through screw engagement so that a focus between the lens provided in the lens-barrel and the imaging element is adjusted while positional relationship between the first magnetic means of the lens-barrel holder and the second magnetic means of the fixing body is maintained; and

“wherein the movable lens body is moved, with respect to the fixing body in the optical axis direction, by a magnetic attractive force or a magnetic repulsive force between the first magnetic means and the second magnetic means.” (emphasis added).

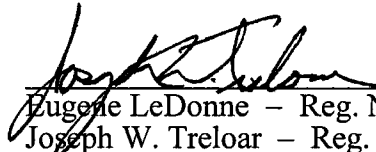
Accordingly, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of obviousness of independent Claim 1, and corresponding Claim 2 because it is dependant from independent Claim 1. Therefore, Applicants respectfully requests that Examiner remove the rejection of claims 1 and 2 under 35 U.S.C. § 103(a) as being unpatentable base, in part, on U.S. Patent No. 5,572,372 to Sekine et al. in view of U.S. Patent No. 7,268,816 to Yoshida et al..

III. NEW CLAIMS 5 AND 6

Claims 5 and 6 are ultimately dependent from Claim 1. As Claim 1 is allowable, so must be claims 5 and 6. As such, Applicants respectfully assert that claims 5 and 6 are allowable. Therefore, Applicants respectfully request Examiner allow claims 5 and 6.

Based upon the above remarks, Applicant respectfully requests reconsideration of this application and its early allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,



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